



## **Enhancement of Cloud User Data Access Security Entrusted to AI Face Recognition Techniques**

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### **Abstract**

As technology progresses, in figuring and broadcast communications, electronic images and video are playing more important roles in today's data age. The Human Face is a key component of video and audio databases utilized by observation frameworks. Recognizing and locating human features and face highlights in a photograph or series of photographs is a difficult task in unusual scenarios, such as recordings, when acoustic conditions, illumination, subject regions, and posture can vary dramatically from edge to edge. A Human Face is an automated framework that a school uses to monitor the engagement of its employees and students. Using the Real-Time Face Recognition utility, distinct customer faces are identified and perceived with the information base to look after a company's representatives and their activities. Although the cloud offers numerous advantages, it does have one clear disadvantage: the level of protection required to access user data. The cloud poses the possibility of unauthorized access to user data. The user data was taken from the cloud application due to a security issue in the cloud. As a result, many people are concerned about their data. So, in this study, we'll use Face Recognition Technology to solve the problem. Using Artificial Intelligence Face Recognition The user is the only one who has access to the cloud. If someone else tries to access or steal data from the cloud, it will notify the user. User data may be safeguarded and only the verified user can access the Cloud utilizing real Face Recognition Technology.

**Keywords:** Face Recognition in Real Time; Automated Framework; Artificial Intelligence; Security

### **1. Introduction**

In the immensely populated cloud computing world, establishing identification has become extremely challenging. With rising worries about authentication and quick improvements in cloud computing, database access, and Internet communication, the demand for a reliable cloud authentication mechanism has grown. Face recognition is a non-intrusive technique, and facial traits are arguably the most prevalent biometrics features used by humans to identify others. Face recognition authentication for cloud computing is based on security concerns about data access and cloud databases. It can give users and service providers, cloud customers, and various businesses with a suitable degree of security. Cloud security is a serious problem. The identifiable evidence of things in an image is likely to begin with picture management processes, such as commotion evacuation, followed by (low-level) extraction to locate lines, districts, and maybe regions with specified surfaces. Data is stolen or accessed by unauthorized individuals. Using AI Face Recognition Technology to decrease data theft.

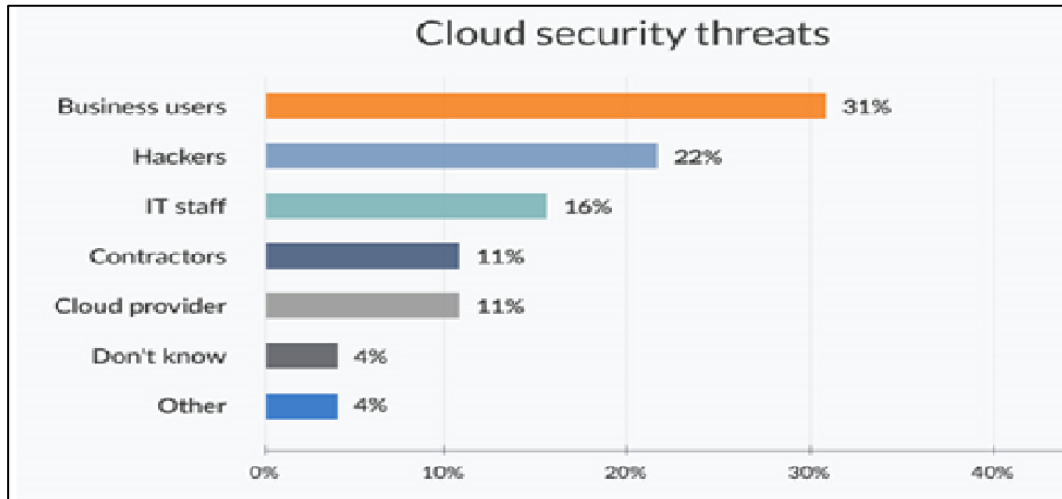


Figure 1: Cloud Security Threats

**How Facial Recognition Works?**

- Image is captured.
- Eye locations are determined.
- The image is cropped and transformed to gray-scale.
- The image is transformed into a template that the search engine uses to generate face comparison results.
- A complex algorithm is used to compare the template to other templates on file, and the image is searched and matched.
- Duplicate licenses are investigated for fraud.

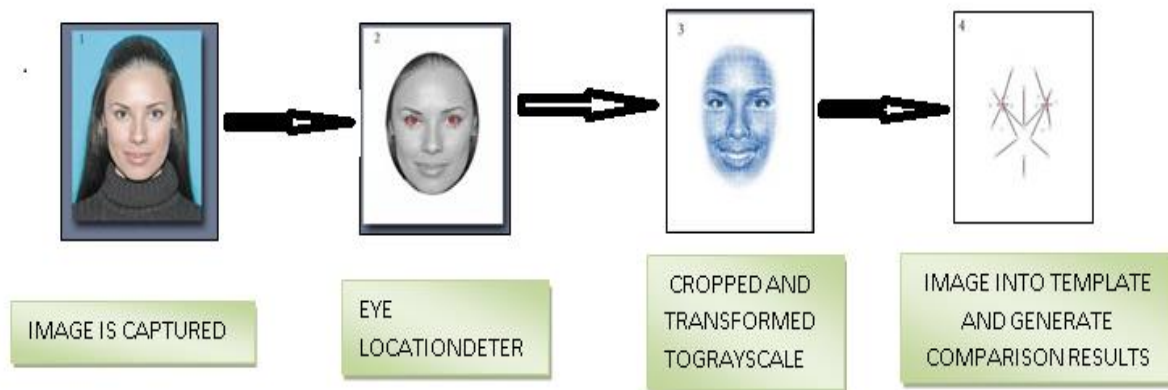


Figure 2: AI Face Recognition

**2.Literature Survey**

AUTHOR	TITLE	FINDING
SusheelaHooda, Vikas Lamba, Amandeen Kaur	AI and Soft Computing Techniques for Securing Cloud and Edge Computing: A Systematic Review	This study focuses on the systematic mapping of cloud and edge computing security using AI and SC under the topic facets, contribution facets, and research facets, respectively, with security parameters intrusion detection parameters and privacy protection research parameters. Indicates that it is considered a criterion.
Vikas Agarwal, Nisha Gupta, Arun Kumar	AI-Assisted Security Controls Mapping for Clouds Built for Regulated Workloads	Mapping customer control to cloud provider control records is done manually by an expert. This process often takes months and needs to be repeated for each new customer.
SiemGirmay, Faniel Samson, Asad Masood Khattak	AI based Login System using Facial Recognition	The received image is analyzed by AWS facial recognition tools and the face ID is sent along with the confidence of the algorithm used to analyze the face. The prototype is tested on eight different sides, and the system authenticates users 100 times more accurately and navigates to each feed.

**3.Proposed System**

The biggest downside of the cloud is that other people may access user data. As a result, we propose using Artificial Intelligence Face Recognition Technology to improve Cloud security. When we try to access the cloud, it recognises the person's face and authorises them; if the face isn't recognised, the AI will send a security alert to the user. As well as ensuring cloud security. Data on the cloud may be safeguarded in this way.

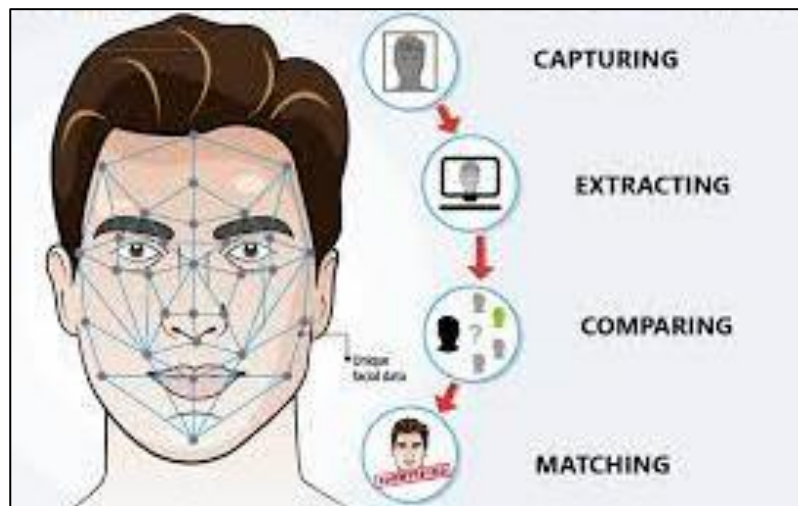


Figure 3: Implementation of Module

Only authorised users can access data from the cloud server due to the Face Recognition System (FRS).The authorisation of the individual entering the sensitive area is then determined using face recognition. At the same time, it keeps track of the observed movement's coordinates. Finally, if the intruder's face isn't recognised, the approximated coordinates are sent to the tranquillizer gun, which targets the intruder automatically. Experiments reveal that the suggested security solution, which uses face recognition to minimise unwanted access and increase

dependability, is successful. When issuing identification documents, facial recognition is employed. Face match compares the portrait on a digital biometric passport with the holder's face during border inspections.

We suggested using a biometric technology named "FACE RECOGNITION" to ensure sufficient security for user authentication in cloud computing by using Artificial Intelligence. So that the user can access their data confidentially without any threats in their personal cloud using this method.

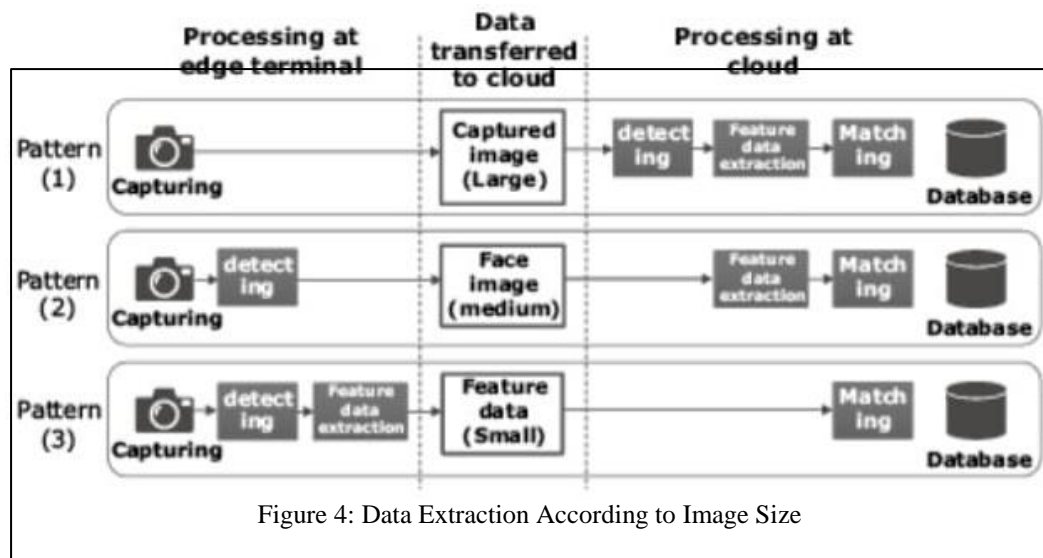


Figure 4: Data Extraction According to Image Size

#### 4.Result and Discussion

In ideal settings, facial recognition systems exhibit near-perfect precision, with 99.97 percent identification accuracy. [1]Defends enterprises from theft,[2]Makes medical therapy more effective, Increases the effectiveness of security mechanisms. Face recognition, unlike any other identification method, recognises the distinct characteristics of the human face and compares them to a database of images. Face forms are detected and identified by sensors based on the colour of the eye, nose shape, and other factors. Identifying the human face entails focusing on distinct traits such as the jaw, cheekbones, and facial shape, among others. The face is validated once the image in the database matches the face of the individual in question. This solution's non-contact feature enables identifying and verifying a person's identity considerably easier and requires far less processing than any other identification system. At order to ensure that there is no risk of vandalism, facial biometrics systems have been implemented as a measure of security in the most prestigious institutions and companies. This form of software eliminates the possibility of human error and is a huge benefit. The programme performs geometric and photometric recognition in seconds using only a handful of algorithms.

#### 5.Conclusion

The sharing is essential to the structures of appropriated figure. Appropriate calculating offers a variety of services, including IaaS, SaaS, and PaaS. Because they are paid organisations, recognising confirmed clients in distributed data is a significant concern. A security screening is necessary in online registration in order to provide cloud services only to authorized customers. There are numerous check frameworks such as secret state, OTP, Voice affirmation, finger affirmation, palm acknowledgement, and so on, but each has its own set of drawbacks, for example, secret key systems are sometimes not possible, mystery expression can be easily taken by software engineer, or if a customer uses a complex mystery state, the customer may ignore that mystery expression. By using AI Face recognition technology cloud user data security is increased . The threat to user data access by others can be reduced by this proposed system . This system authenticate and authorize the person face .If the face is not recognized it deny the request to access the cloud and send alert to the user. while using this technology ,we canavoid the other persons to access our cloud data. This will be more secure .This system gives more satisfaction to users.

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